NOTE XXI.

ON TRICHYS FASCICULATA (SHAW).

BY

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Linnaeus bestowed the name *Hystrix macroura* on a Porcupine, described and figured by Seba in 1734. Seba remarked: »La queue est la partie la plus admirable de cet animal; elle est d'une grande longueur, diminuant insensiblement, hérissée de poils piquans, et finissant en épi d'une façon toute particulière; car ses poils paroissent composés de *noeuds* [1]) d'une manière très-artificieuse; d'abord on voit un poil délié que reçoit un autre poil plus long et plus gros, à peu près comme sont arrangées *les graines de Ris enfermées dans leurs capsules* [1]). Chacun d'eux n'est pas de la même longueur, ni de la même grosseur, mais joints ensemble ils forment un faisceau transparent, et qui jette un éclat qu'on peut nommer argentin". Seba figured the specimen belonging to Mr. Vincent's Cabinet at Haarlem besides a tail from his own collection.

Buffon described and figured in his *Histoire naturelle* a quite different species, under the name *le porc-épic de Malacca*, called *Hystrix fasciculata* by Shaw in his well-known *General Zoology*: Buffon saw the animal living in the house of Mr. Aubry, St. Louis' priest, and gave its figure; afterwards he saw another living specimen at Paris

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1) I italicize.

in 1777; he said that the species was characterized »surtout par la forme et la longueur de la queue; elle est terminée par un bouquet de poils longs et plats, ou plutôt de petits lanières blanches semblables à *des rognures de parchemin*". [1])

Both species are from the Indian Continent and the E. I. Archipelago. A third long tailed tufted Porcupine lives in Africa; the latter, called *africana* by Gray, has the tail like *macroura*, viz.: »with a tuft of quills, consisting each of a long slender stem, swelling out at intervals into knots resembling grains of rice".

When studying the tail of the three species by the aid of a lens, we find that the short spiny hairs with which it is covered present the following peculiarities:

in *macroura* each stout spiny hair is flanked by *two* longer less spiny hairs or bristles;

in *africana* each long spiny hair is flanked by *two* much shorter spiny hairs or bristles; in both species therefore *the number of the hairs is equal to three times the number of scales* [2]), as is generally to be found on the tails of the other Rodents, with a few exceptions [3]);

in *fasciculata*, however, there is only *one* rather short spiny hair protruding from the top of each rhombic scale (one of the few exceptions from the just now mentioned rule).

It may be observed that the skull of *africana* agrees much more with that part of *macroura* than of *fasciculata:* so that considering all these differences we are inclined to bring the three species under two heads, viz.: *macroura* together with *africana*, and the very different *fasciculata* in a separate genus.

Cuvier was the first author, who separated the long-tailed old-world-Porcupine from the short-tailed *Hystrix*-

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1) I italicize.

2) See my paper on *Mus Armandvillei* in Max Weber's Zool. Ergebn. Bd. III, Heft I, 1893, p. 81.

3) See J. C. H. de Meijere. Ueber die Haare der Säugethiere. Morph. Jahrbüch. Bd. XXI, 1894, Heft 3.

species and called the group »*les Atherures*"; his type was *macroura* Linné and not *fasciculata* Linné as Cuvier erroneously wrote (*fasciculata* being a specific-name given by Shaw), and as appears from the description of his type, viz.: »la queue terminée par un faisceau de lanières cornées applaties et *étranglées d'espace en espace*". Cuvier moreover confounded Buffon's figure with that of Seba (see Règne animal, 1829, I, p. 215, note). If we accept Cuvier's generic-title, *Atherura*, then the two species with »la queue terminée par un faisceau de lanières cornées applaties et *étranglées d'espace en espace*" belong to it, viz: *macroura* Linné and *africana* Gray, meanwhile *fasciculata* Shaw ought to bear another generic-title.

Dr. Günther described P. Z. S. L. 1876 a Porcupine from West-Borneo under the name *Trichys lipura* (Mr. Oldfield Thomas proposed in 1889 the name *Güntheri*), agreeing exactly with three specimens from Malacca, collected by the late Diard and since in the Leyden Museum, besides one specimen collected by Büttikofer at the foot of Mount Kenepai, 20 November 1893: Waterhouse having studied these three Malaccan specimens, brought them under the head *fasciculata* Shaw, and Dr. Günther having examined one of them said that they are identical with his *Trichys*-specimens. The reason why Dr. Günther could not accept the identity of his *lipura* with *fasciculata* Shaw we find in P. Z. S. L. 1889, p. 76, viz.: »*fasciculata* of Buffon and Shaw is a Porcupine with *long* 1) spines of a different coloration and with a *thick* 1) bundle of terminal quills at the end of the tail and, *probably* 1)، identical with *macroura*". Buffon's figure, however, of *le porc-épic de Malacca* is as badly drawn as Buffon's other figures, f. i. those of *l'Aye l'aye de Madagascar*, of *le Loris de Bengale* and others and so in looking at the plates we should always compare what he says in the descriptions. And in the description of *le Porc-épic de Malacca* there is no word about *long*

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1) I italicize.

spines on the back of the animal; Buffon wrote: »tout le dessous du corps est blanc, les flancs et le dessus du corps sont hérissés de piquans, moins longs que ceux du porc-épic d'Italie, mais d'une forme toute particulière, étant un peu aplatis et sillonnés sur leur longueur d'une raie en gouttière". This description agrees with Dr. Günther's and exactly with what we see in our four specimens. As to *the thick bundle of terminal quills at the end of the tail*, I confess that Buffon's figure is less correct than his description, which runs as follows: »la queue est terminée par un bouquet de poils longs et plats, ou plutôt de petites lanières blanches semblables à des rognures de parchemin". Exactly Dr. Günther's description, P. Z. S. L. 1889, p. 76, where he says that the tail ends in a thin bundle, meanwhile Buffon said *in his description* no word about a *thick* bundle. So that it is clear that *lipura* Günther (*Güntheri* Thomas) is *fasciculata* Shaw (Buffon's Porc-épic de Malacca). I demonstrated above that *fasciculata* needed a new generic title, and I think it to be en règle to accept Dr. Günther's generic name *Trichys* and to call the species *Trichys fasciculata* (Shaw).

To what conclusions we come when laying too much strength upon figures in old books without consulting and comparing the descriptions, may be illustrated by the most striking fact, that Seba's figure of *Porcus aculeatus sylvestris* shows short quills on back and flanks, meanwhile in reality on the back of *macroura* there are several very long quills and bristles; without more données we therefore should not have good reason to trust the identity of Seba's figure with *macroura* L. Dr. Günther nevertheless did not hesitate to accept the name *macroura* L. for Seba's animal in spite of Seba's incorrect figure. And Dr. Günther was quite right in doing so, for in Seba's figure the tail is the main point, the rest is secondary thing. And so it is too with Buffon's figure of *le Porc-épic de Malacca* (*fasciculata* Shaw).

Observation. That there is a distinct relation between scales and hairs, resp. quills, and that the latter are not disorderly implanted between the scales and upon the skin, has been pointed out by Prof. Max Weber, Dr. de Meijere and myself, and therefore it is evident that we pay continually attention to that highly important matter.

Here in *T. fasciculata* I settle the following interesting fact. The quills are placed upon the body in very regularly arranged groups, like in other Porcupines; in separate groups on parallel rows like the hairs on the scaly tails of most Rodents and other Mammals; the longest quill always in the middle, the other ones right and left diminishing regularly in length; the whole arrangement makes the impression *as if they are placed along the margin of scales*, like it is the case with the hairs of the rat's tail. And looking at the inside of the skin we see to our great astonishment and surprise, *that they do indeed*, for the whole inside shows *models* [1]) *of scales regularly arranged in parallel rows exactly like the squills upon the reverse of the skin!*

It is a remarkable fact that the more the skins of Mammals are examined, the more it appears that there are everywhere vestiges of scales where formerly nobody thought of. This inquiry not being closed for several years, it however is very seductive to a speculative mind to conclude that it is very likely that the ancestors of our Mammals in prehistoric times were clad with scales and not with hairs or quills. And that this hypothesis would not be too hasardous follows from the fact that it is supported by what we know about the teguments of numbers of fossils, found in very old strata. It is however a great puzzle to me to understand why or how those gigantic well armed and strongly clad animals have vanished and yielded their place in favour of the rather small, less armed and badly clad specimens of the creation of now a day!

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1) Cf. what I remarked concerning the tabulated skin of hands and feet of *Mus Armandvillei*; Weber's Zool. Ergebn. Bd. III, Heft I, 1893, p. 81 (bottom).